Fostering Communication and Collaboration

The NIH Catalyst

A Publication for NIH Intramural Scientists

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The NIH Library

Renovated and Reinvented

By Christopher Wanjek

Have you used the NIH Library lately? If you've read an on-line journal article in the past week, then the answer is likely yes because the library probably paid for that subscription.

But have you been within its physical structure? Most likely, the answer is no.

Yet, why not venture in, given the range of services and accommodations that make the NIH Library one of the best academic libraries in America? The reason is perhaps because of a preconceived notion of what a research library is, or was, or should be.

Some researchers, particularly younger ones, see libraries solely as a virtual world into which they enter remotely to find and retrieve information, usually in some sanctioned, peer-reviewed form. Only when a desired journal article, old or new, is not available electronically—an increasing rarity these days—will they stifle their fear of a paper cut and proceed to the stacks, pacing patiently along the hundreds of linear feet of journals until they zero in on the volume they need.

Of course, if their need wasn't urgent, they could have just as easily ordered a digital copy via the old school, document-delivery service. This is the library-as-Amazon.com-warehouse perspective.

Other, more-senior researchers, remember libraries as the physical centerpiece of knowledge

Bradley Otterson

The NIH Library makeover includes a new green terrace, which has medicinal plants currently under study by NIH.

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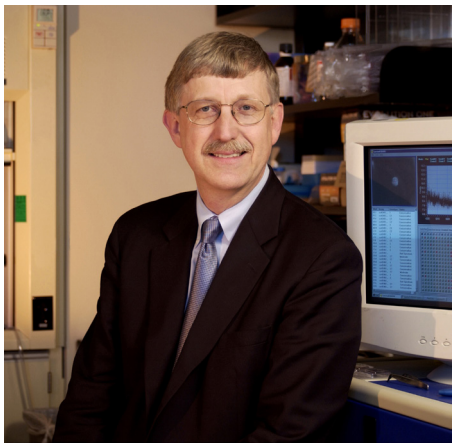
Francis Collins, New NIH Director

"I am one of you," says Collins to the NIH intramural community.

By Laura Stephenson Carter

Whistles and cheers and a 15-second standing ovation greeted new NIH Director Francis Collins as he strode down the aisle in Natcher Auditorium for the NIH Town Hall Meeting on August 17. Collins—who had served as director of the National Human Genome Institute (NHGRI) from 1993 to 2008 and led the Human Genome Project to completion in 2003—was nominated to be NIH director by President Barack Obama on July 8, 2009, confirmed by the U.S. Senate on August 7, sworn in on August 17, and started his new job the same day.



During the meeting, and later at a press conference, he outlined five major themes he plans to focus on as NIH director:

- Applying high-throughput technologies to develop a comprehensive understanding of biological processes in such areas as nanotechnology, chemistry, imaging, genomics, computational biology, and environmental sciences
- Translating basic science discoveries into treatments, diagnostics, and prevention strategies
- Putting science to work for the benefit of health-care reform by doing more comparative clinical research that will produce good outcomes data to assist in the process of making wise decisions about American health care
- Global health initiatives to treat infectious as well as noncommunicable chronic diseases in the developing world
- Reinventing, reinvigorating, and empowering the research community by funding young researchers, and other initiatives

In the question-and-answer portion of the Town Hall meeting, Collins fielded many questions including one on his view of the future of the intramural program.

"I have great admiration for the intramural program at NIH and what it has accomplished," he said. "I would like to reassure the intramural community that I am one of you." He intends to keep his lab going at NHGRI. "I'm excited about what you do. I'm excited about learning more about what you do," he added. "This will certainly be on the agenda as an area of great enthusiasm on my part."

The NIH Catalyst plans to conduct an in-depth interview with Collins in the near future. ■

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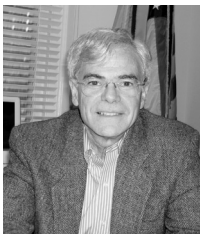
From the Deputy Director for Intramural Research

I Am Intramural



Michael Gottesman

Some of you may have seen the posters blossoming at the NIH with the assertive title "I Am Intramural." Volunteers standing next to these posters are asking passersby to write on sticky notes—to be attached to the posters—what they like about being part of the NIH intramural program.

A substantial number of people have had positive and interesting things to say about what is special about working at the NIH, and this is a good opportunity to remind us all about how terrific it is to have the privilege to work here.

Spreading the Word

The "I Am Intramural" campaign is part of a larger project, initiated and supported by the NIH intramural scientific directors, to spread the word about the intramural program both locally and beyond our walls to academia and to the public.

Deputy scientific directors Michelle Bennett (National Cancer Institute) and Andy Baxevanis (National Human Genome Research Institute) are co-chairing a committee charged with building awareness and improving the visibility of the NIH Intramural Research Program. This committee includes representatives from most institutes and centers and is part of an effort to inform our colleagues and the general public about homegrown NIH research, including the achievements of the intramural program, its impact on public health, and the opportunities it offers students and potential faculty.

The first step has been to assess what makes the NIH intramural program great and what it would take to make it better. That's where you come in. The "I Am Intramural" campaign is your vehicle to influence the new face we put forward and enhance the promotion of our research program. Your words will be the very words we use.

Perception

This committee so far has identified several areas that beg improvement, including the NIH website because it is difficult to find information about intramural programs and researchers; NIH branding because the concept of "intramural" is unfamiliar to the public and many researchers; our reputation because there is a perception among some researchers that our intramural program is past its prime or that federal regulations stifle research; recruitment because we sometimes lose highly qualified women and minorities to universities and other research organizations; and our printed materials, including *The NIH Catalyst*, because they don't provide relevant information on intramural research to a wide enough audience.

Improving these aspects will help us continue to recruit outstanding trainees and faculty, many of whom have simply never heard of the NIH intramural program and therefore are unlikely to respond to our searches or to explore opportunities for training.

This need to invigorate appreciation for the intramural program came into focus at the scientific directors retreat in December 2008. The single overriding message that we have heard from you is that we need to promote NIH intramural research.

I am thrilled to see support across the board, from all of the scientific directors, from the Office of Communications and Public Liaison, from the 40 members of the promotion committee and, of course, from you.

We have also been able to secure funds to ensure that the effort to improve the visibility of the intramural program materializes within a year.

Recruitment

In addition, the scientific directors are planning an experiment this fall involving trans-NIH recruitment for new tenure-track investigators—what we are calling "Earl Stadtman investigators," named after the legendary biochemist and mentor in the National Heart, Lung, and Blood Institute, who died in January 2008.

The NIH intramural program recruits 30 to 40 tenure-track investigators yearly. Recruitment efforts have typically focused on programmatic needs within each of our 23 intramural programs and may not always attract the most innovative scientists who are creating new fields.

The trans-NIH recruiting effort will be marked by full-page advertisements in *Science*, *Nature*, and the *New England Journal of Medicine* for tenure-track positions in all of biomedical and behavioral research, including laboratory, clinical, and population-based studies.

These ads should attract some attention and will also provide an opportunity to inform the scientific community about the intramural research program.

I encourage you to go to the "I Am Intramural" website to learn more about this campaign and to share your thoughts about what motivates you to be a member of the Intramural community. The site is at http://iamintramural.nih.gov.

I am reminded of an Emily Dickinson poem I learned long, long ago. Please forgive me if I don't have the words quite right, but it goes something like this:

I'm intramural! Who are you?
Are you intramural, too?
Then there's over 12,000 of us—do tell!
They'll honor us, you know!

How wonderful to be intramural!
How great to feel so proud;
To do our work the livelong day
And hear the praise aloud!

—Michael Gottesman, DDIR

Commentary

Need for a Bridge and How to Build It

"Much is known but unfortunately in different heads."
—Werner Kollath (1949), German bacteriologist

The public demands that its large investment in science eventually results in improvements in human health. For the past half century, advances in biology and technology have occurred logarithmically; however, their application to understanding and treating human disease has proceeded only arithmetically, creating an increasing gap. Reasons for this gap include a shortage of physician-scientists, who bring a unique perspective to their research because they have a knowledge of disease, and difficulties in teaching advanced biology to physicians and pathobiology to basic scientists.

Many terms are used to describe programs that attempt to address these problems including translational medicine; bench-to-bedside research; the NIH Roadmap; and the Howard Hughes Medical Institute's (HHMI) Med into Grad initiative. All are based on the concept that communication between basic and clinical disciplines is critical.

Teaching pathobiology to Ph.D.'s

Many public and private initiatives seek to increase the number of physician-scientists and M.D.-Ph.D. students. But considerably less attention has been paid to teaching pathobiology to Ph.D.'s as a mechanism to facilitate interactions with physician-scientists. All programs to bridge the gap assume that if research funding is disease-related, communication between scientists and clinicians will automatically occur. However, the role of education is infrequently emphasized. Without efforts to instruct basic scientists about pathobiology and clinical problems and clinicians about new research possibilities, efficient communication is unlikely.

Less well appreciated is that the decline in the number of physician-scientists has created excellent academic positions for Ph.D.'s in clinical departments. In 1993, 40 percent of Ph.D.'s in academic medical centers were in clinical departments, according to the Association of American Medical Colleges. In 2008, the figure exceeded 80 percent. Many of those positions are tenure track. In fact, Ph.D.'s currently have greater opportunities in clinical departments than in traditional basic science departments.

This changing paradigm has attracted little attention. For example, in recent national conferences on careers that link basic science and medicine, there were no mentions of opportunities for Ph.D.'s in clinical departments. Because medical school graduate program directors tend to have little experience in medicine and pathobiology, their Ph.D. students don't get many opportunities to learn about clinical medicine. The separation between basic science and human health grows even wider. In my view this critical gap contributes to the difficulty of linking science and medicine.

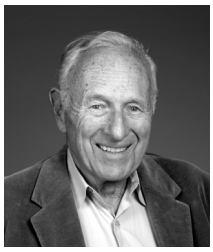
Remarkable new technologies, including genome-based personalized medicine, hold great promise for better understanding disease. Technologies change but the disease-related problems persist. It therefore becomes all the more important for clinicians and physician-scientists to collaborate. But basic scientists need to first understand the clinical aspects of disease for such collaborations to be effective.

Considerable data support the timeliness of teaching pathobiology to Ph.D. students and postdoctoral fellows. Surveys reveal that most students who choose medical-school-based graduate programs over university-based ones seek research careers that will influence human health. The number of successful pathobiology programs has increased. For example, in 2006, HHMI's Med into Grad program—which aims to help future Ph.D. biomedical researchers develop an understanding of medically relevant principles—awarded $10 million to 13 institutions. The program was so successful that HHMI plans to award up to $25 million to 25 institutions in 2010.

Bridging the gap

In 2000, NIH and FAES (Foundation for Advanced Education in the Sciences) began a novel course, entitled "Demystifying Medicine," to bridge the gap between advances in biology and their application to major human diseases. To accommodate the many Ph.D.'s at NIH, we instituted a format resembling old-fashioned medical grand rounds in which patients were presented. From January through May, we offer weekly two-hour sessions featuring major diseases, in which a patient explains what it's like to have the disease, a physician-investigator discusses clinical advances and challenges, and a basic scientist presents the latest research findings.

"Demystifying Medicine" has been well received by scientists at all levels. Annually, about 800 individuals register including those attending on site or via live or archived videocasts, available worldwide. More than 24 institutions use the sessions for teaching students and fellows. A DVD, produced and distributed in 2007, is available upon request. Participants frequently comment that the patient presentations put a human face on disease. Understanding human issues related to disease evokes compassion in scientists as well as physicians and motivates them to learn more.


Irwin Arias

Outcomes

Substantial evidence indicates that these educational efforts influence the careers of Ph.D. scientists. Outcomes data from three programs in the biological sciences that have introduced targeted medically relevant material into their curriculum—Harvard-Massachusetts Institute of Technology Division of Health Sciences and Technology Program (Boston), Washington University (St. Louis), and Tufts (Boston)—reveal that five years after completion of postdoctoral work, approximately one-third of graduates had acquired academic positions in clinical departments compared with fewer than 10 percent of those who completed traditional Ph.D. programs (*Nature Med* **8**:433-436, 2002).

Teaching pathobiology to Ph.D.'s is timely, challenging, supported by outcomes data, and, for some, preparatory for academic positions in clinical departments. The goal is not to turn scientists into physicians but to enable them to be able to communicate and share ideas with clinical investigators. As Tom Cech, former president of HHMI, stated: "It is self-evident that scientists working on problems which may have clinical relevance should know about the disease and how it affects people."

In large part the sometimes decades-long interval between scientific discoveries and their translation into practical therapies is due to the inherent difficulties in making those transformations. The goal of the educational initiatives I have described is to remove one of the barriers to making those transitions.

—Irwin Arias, M.D.

Dr. Irwin Arias, a senior scientist at the Eunice Kennedy Shriver National Institute of Child Health and Human Development, is the director of the "Demystifying Medicine" course. For more information *see page 11,* *go to http://demystifyingmedicine.od.nih.gov, or e-mail ariasi@mail.nih.gov.*

The Training Page

From the Fellows Committee: Social Butterflies

By Chaya Pooput, National Institute of Diabetes and Digestive and Kidney Disorders

Are NIH fellows as socially awkward as some people seem to think they are? The FelCom Social Subcommittee aims to change that perception!

Because most NIH postdoctoral fellows are not from the Washington, D.C., area and many are in the United States for the first time, some find it difficult to make friends or find people who share similar interests outside the lab. The FelCom Social Subcommittee facilitates and promotes social interactions and networking among NIH fellows and has organized many social activities for the NIH fellows community.

FelCom Happy Hour: Happy hours are held monthly on Wednesdays starting at 6:00 p.m. at a local establishment. About 50 people usually attend. The party room or a section of the restaurant or bar is reserved exclusively for NIH fellows; special deals on food and beverages are offered so fellows can socialize and relax in a friendly and playful atmosphere after a hard day at work.

FelCom Holiday Party: This annual event is usually held in early December at the Foundation for Advanced Education in the Sciences (FAES) house at 9101 Old Georgetown Road. Last year the party, which was organized in partnership with the Graduate Student Council, featured a live jazz band and was a huge success. More than 100 NIH postdoctoral fellows, graduate students, and their families attended.

FelCom Social Weekends: Nearly every weekend, the Social Subcommittee organizes gatherings at cultural, sports, and outdoor events such as the Pompeii exhibition at the National Gallery of Art, the Duke Ellington Jazz Festival, the Cherry Blossom Festival, and the Music Festival at the French Embassy. During the summer, the subcommittee also organizes bike rides and canoe trips on the Potomac River. The most popular event this year was the U.S. Capitol Building tour, attended by more than 200 fellows and their families.

The FelCom Social Subcommittee and the NIH Office of Intramural Training and Education also co-host networking sessions in conjunction with the National Graduate Student Research Festival, the NIH Career Symposium, and other special events.

In addition, the subcommittee is expanding the fellows network beyond NIH by hosting summer barbecue parties with fellows from the Carnegie Institution for Science (Washington, D.C.) and working with the National Postdoctoral Association on its first annual postdoc appreciation day events in September 2009.

By offering a variety of networking, social, and cultural activities, the FelCom Social Subcommittee is reaching out to more fellows and enriching their experience at the NIH.

So let's prove that scientists are not socially awkward. Come join our social activities!

If you're interested in joining the FelCom Social Subcommittee and helping to organize more social activities, contact Chaya Pooput (pooputc@niddk.nih.gov), Aurora Fontainhas (fontainhasa@nei.nih.gov) or Sonia Bhangoo (bhangoos@nidcr.nih.gov). For more information, go to: http://felcom.od.nih.gov/subCommittee/social.aspx. ■

WWW=Wacky Wiki World
The Wikipedia Entourage Visits NIH

By Erika Ginsburg, National Cancer Institute

NIH and the online encyclopedia Wikipedia teamed up this summer to make health and science information more accessible and reliable for the general public. It's the first time the cyber encyclopedia has worked with a U.S. federal agency.

On July 16, staff and volunteers from the Wikipedia Foundation, which publishes the encyclopedia, held a day-long Wikipedia Academy at NIH's Bethesda campus to teach participants the art of online editing.

The free encyclopedia boasts more than 13.5 million articles written in 266 languages. Volunteers contribute content anonymously through a process of cooperative and collaborative editing.

"The more scientists and health communicators who participate, the more accurate the information will become," said Marin Allen, of NIH's Office of Communications and Public Liaison.

The sessions were presented by some two dozen volunteer "Wikipedians" (non-NIH scientists, physicians, and writers who already contribute content) who discussed reasons to contribute and their system of quality management. They ran hands-on workshops for the 100 NIH participants (scientists, communications specialists, and web authors). The experienced Wikipedians are continuing to provide help.

NIHers learned how to use embedded templates and links, import text, and edit posted content. Wikipedia's core content policies were emphasized: Articles must be written with a neutral point of view and be verifiable through cited references. Participants found the instructions surprisingly easy.

"It seemed like it should have been harder," said Academy participant Ronald Summers, senior investigator in Radiology and Imaging Services at the Clinical Center. "I learned the basics in a few minutes." Later, he edited a Wikipedia scientific article.

But Summers and other scientists are concerned that Wikipedia's science and medical articles vary in quality and length.

For example, Wikipedia's entry on synthetic bioactive molecules is incomplete, said Academy attendee Dan Appella, a senior investigator in the National Institute of Diabetes and Digestive and Kidney Diseases. Still, "Wikipedia is certainly a very useful resource," he admitted. "I was very encouraged by the end of the day."

Although there is not yet a formal mechanism for NIHers to be recognized for their Wikipedia contributions, NIH is drafting a policy to address the appropriate use of science and health information, supervisor permissions, and web security. Contributing to Wikipedia represents an opportunity for NIH to provide a valuable public service.

To learn more, go to: http://en.wikipedia.org/wiki/Wikipedia:Academy/NIH_2009/Welcome. ■

Catalytic Research:

You Are Intramural

Discoveries made by NIH intramural investigators continue to blaze new paths for scientific and clinical research. But not everyone knows about or appreciates the efforts of the intramural program.

So the NIH scientific directors have undertaken an effort to build awareness and improve the visibility of the NIH Intramural Research Program. They've created a committee—cochaired by deputy scientific directors Michelle Bennett (National Cancer Institute) and Andy Baxevanis (National Human Genome Research Institute) and made up of representatives from most institutes and centers—and charged it with:

- Clearly explaining how the research done at NIH improves people's lives
- Showcasing the talents of NIH's scientists, clinicians, and professional staff
- Providing information on how NIH is training the "next generation" of biomedical scientists
- Promoting participation in clinical research studies done at the NIH Clinical Center

But the committee needs your help. This effort can be carried out more effectively if you share experiences, accomplishments, and motivations for being part of this unique environment. The committee wants to hear from the entire NIH community—not just from the scientists—because the role each person plays within the intramural program contributes to its success.

By asking you a few short questions, the committee hopes to capture a genuine sense of why intramural is special. Gathering information about the scientific discoveries, clinical research, training opportunities, administrative accomplishments, and the outstanding people who make up the Intramural Research Program will help the committee do that.

The information will be used to develop a new public intramural website and to put together new promotional materials to showcase the impact NIH has as a research institution. This effort is important because it can help NIH bring "the best and brightest" from all walks of life into the intramural program, make connections with the broader scientific community, enroll patients in clinical studies, and account to taxpayers and Congress for the investment they make here.

To share your thoughts about why the intramural program is important to you, please go to http://iamintramural.nih.gov. For further information, e-mail iamintramural@mail.nih.gov. See page 2 for Michael Gottesman's thoughts on this effort. ■

Research Briefs

NIA: Migraines

Middle-aged women who suffer from migraine headaches accompanied by neurological aura are more likely to have damage to brain tissue in the cerebellum later in life, according to a study by researchers at NIA, the Uniformed Services University of the Health Sciences, and the Icelandic Heart Association in Reykjavik. The researchers found that women are more susceptible than men to localized brain tissue damage identified by magnetic resonance imaging and that women who reported having migraines with aura were almost twice as likely to have such damage in the cerebellum as women who reported not having headaches. Although the study shows an association in women between migraine and cerebellar tissue damage later in life, the functional significance of such brain changes remains an open question. [*JAMA* **301**:2563–2570, 2009]

NIBIB and NCI: HER2

NIH researchers found that they could use positron emission tomography imaging to monitor, in living mice, the HER2 protein found in above-normal amounts in many cases of breast cancer as well as some ovarian, prostate, and lung cancers. This new approach, once validated in mice and pending further experiments, could provide a real-time noninvasive method for identifying tumors in humans that express HER2 and that would be candidates for targeted therapy directed against this protein. [*J Nucl Med* **50**:1131–1139, 2009]

NIDCR: Sjögren's Syndrome

Thousands of Americans will be evaluated this year for the autoimmune disorder primary Sjögren's Syndrome, and their doctors will likely test for two antibodies that are often associated with the condition. Standard blood tests detect the more strongly associated antibody, called SSB, only about half the time. NIDCR scientists report that a rapid, automated test now under development called Luciferase Immunoprecipitation System, or LIPS, identified the SSB antibody correctly three out of four times and with perfect accuracy. Sjögren's Syndrome, a common autoimmune disorder associated with epithelial inflammation and exocrine gland dysfunction, affects about 4 million Americans, 90 percent of whom are women. [*Autoimmunity* **42**:515–524, 2009]

NINDS and NIDDK: Neurons

A NINDS, NIDDK, and Harvard Medical School (Boston) study suggests that neurons and plant root cells may grow using a similar mechanism. The research sheds light on hereditary spastic paraplegias (HSP), neurological disorders in which some of the longest neurons fail to grow. The study suggests that several forms of HSP share an underlying defect with each other and with abnormal root hair development in a plant used for agricultural research—*Arabidopsis thaliana* (mouse-ear cress). The researchers propose that defects in the shaping of the endoplasmic reticulum (ER) are a common cause of HSP and that a gene called *atlastin*, which is defective in about 10 percent of HSP cases and has a role in axon growth, is necessary for maintaining the shape of the ER in mammalian cells. The study also notes that Arabidopsis has an analog of *atlastin*, called *Root Hair Defective 3* (*RHD3*). Mutations in *RHD3* cause the plant to grow short, wavy root hairs. If this connection between axon growth and root hair growth withstands further study, Arabidopsis could be a useful tool for investigating mechanisms of HSP. [*Cell* **138**:549–561, 2009]

NIEHS: UV and Autoimmune Disease

NIEHS scientists were the first to evaluate and find a possible association between ultraviolet (UV) radiation and autoimmune diseases in women. According to the study, women who lived in areas with higher levels of UV exposure when they developed an autoimmune muscle disease called myositis were more likely to develop the form known as dermatomyositis, which weakens the muscles and causes distinctive rashes, instead of the form called polymyositis, which does not have a rash. Further investigation of the mechanisms may provide insights into pathogenesis and suggest therapeutic or preventive strategies. [*Arthritis Rheum* **60**:2499–2504, 2009]

KEY

NIA:	National Institute on Aging
NIBIB:	National Institute of Biomedical Imaging and Bioengineering
NCI:	National Cancer Institute
NIDCR:	National Institute of Dental and Craniofacial Research
NINDS:	National Institute of Neurological Disorders and Stroke
NIDDK:	National Institute of Diabetes and Digestive and Kidney Disease
NIEHS:	National Institute of Environmental Health Sciences

Profile
Henry McFarland, M.D.
MS Champion Transitions to Emeritus Status

By Susan Chacko, Center for Information Technology

Had Henry McFarland become an English professor as he had once planned, our knowledge of multiple sclerosis (MS) might be very different than it is today. Instead, the pioneering NIH neuroimmunologist majored in zoology in college and enrolled in medical school, where, he said, he became "absolutely entranced with the nervous system" after working on brain lipids in a pathology lab.

He went on to become one of the world's leading neuroimmunologists whose seminal contributions to MS research have spanned the areas of neurovirology, immunology, genetics, imaging, and clinical trials. He has trained a whole new generation of MS scientists and helped turn the National Institute of Neurological Disorders and Stroke (NINDS) into an international leader in MS research.

By the early 1970s—after completing medical school at the University of Colorado School (Denver), a neurology residency at Thomas Jefferson Medical College (Philadelphia), and an NIH special fellowship in neurovirology at Johns Hopkins (Baltimore)—McFarland had developed a deep interest in the immune response to viruses. During an NIH special fellowship in neurovirology at University College in London, he met Dale McFarlin, another American neuroimmunologist.

In 1975, NIH invited McFarlin to establish and become chief of the new Neuroimmunology Branch at NINDS. He asked McFarland to join him as a deputy branch chief. The new branch became home to decades of research from the duo with disconcertingly similar names. Their collaboration ended only with Dale McFarlin's sudden death in 1992.

"It was a major shock to everybody when Dale died," said McFarland, who became acting branch chief and was named chief two years later. "It was totally unexpected."

Born: Saxonburg, Pa.

Grew up: St. Louis and Philadelphia

Education: University of Arizona (Tucson) 1962 (B.A. in zoology); M.D., University of Colorado School of Medicine (Denver) 1966

Training: Residencies in medicine and neurology at Thomas Jefferson Medical College (Philadelphia); fellowship in neurovirology and neurology at Johns Hopkins University School of Medicine (Baltimore); fellowship in immunology at University College (London)

Avocations: Woodworking, gardening, photography, and being on the water in his kayak; he plans to build a 16-foot-long wooden boat that can be sailed

Little known fact: Loves old country music like that of Hank Williams and Marty Robbins

McFarland saw to it that the branch lost no ground in its neuroimmunology research. Under his leadership its direction shifted from a focus on animal models to clinical research. He later took on the roles of chief of the Neurological Disease Section and director of the Clinical Neurosciences Program.

Henry McFarland's first encounter with multiple sclerosis was when, as a child, he met a family friend who was bedridden with the disease. "Some kids I guess might have been freaked out by that a little bit," he said. "I was told it was multiple sclerosis though I didn't know what it was at the time, but I guess it was fascinating to me why he was bedridden. How much of that triggered my interest I'm not really sure."

MS is a chronic, often disabling, autoimmune disease that attacks the central nervous system and is characterized by lesions in the brain and spinal cord and the loss of the myelin sheath around certain nerve fibers.

It's "a frustrating disease," said McFarland. "It affects young people at the peak of their careers and their life, sometimes before they're married. Diseases like Alzheimer's are bad diseases, but I think MS is in many respects worse because it steals so much of one's life away."

In the 1970s, McFarland showed that MS patients' unusual immune response to the measles virus suggested that the virus might be a trigger for the disease or that the patients may have altered immune systems. Since then, scientific interest in virus triggers for MS has been "like the stock market, going up and down" with new data, McFarland said. "There is a lot of circumstantial evidence that suggests a virus could be involved [with MS]. We still don't know exactly how."

Perhaps one of McFarland's lasting contributions to the field has been the use of MRI to study the progression of MS in the brain. Until the 1980s, it was thought that MS was a relapsing disease that was inactive between relapses. MRI data from the NINDS lab—in collaboration with Joe Frank in the Clinical Center's Laboratory of Diagnostic Radiology Research—was among the first to demonstrate that new brain lesions appeared even during periods when patients were clinically stable. With this new understanding of MS, physicians now treat patients much earlier to slow the disease's progression.

One of the branch's priorities has been investigating novel therapeutics for multiple sclerosis. Under McFarland's leadership, imaging, clinical, and immunological research has led to several early-phase clinical trials of new MS therapies.

The most recent success story is a drug called daclizumab, a humanized monoclonal antibody (developed initially in Thomas Waldmann's lab in NCI for the treament of cancer) that binds to the interleukin-2 (IL-2) receptor on activated T cells. Immunological studies by Bibiana Bielekova, who trained in McFarland's lab, demonstrated that daclizumab

decreases the binding affinity of the IL-2 receptor and shuts down the T-cell pathways that are involved in the autoimmune response in MS patients.

After daclizumab treatment, there is an expansion of CD56 regulatory cells that correlates with a decrease in brain inflammation. These studies provided the basis for phase II and III clinical trials. Further investigations may lead to more targeted therapies and to oral therapies for MS and other autoimmune diseases.

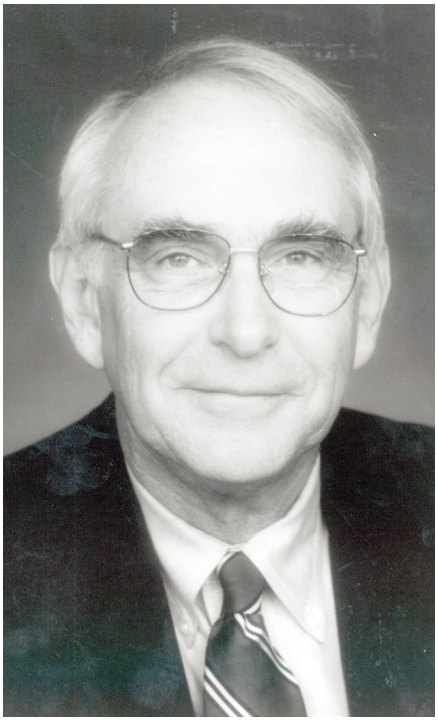
Genetics and environmental factors are thought to play a role in MS. McFarland's early studies of families, identical twins, and nonidentical twins showed that only a minority of genetically identical twins were both affected by MS. "It emphasizes that there probably [are] both a genetic and [an] environmental influence to this disease process," he observed.

In addition to doing research, McFarland has been deeply involved with patient groups throughout his career. He has served on almost all of the National MS Society advisory committees and for several years he chaired their Research Programs Committee. He is a lifetime member of the National MS Society Board of Directors and is active on several of the organization's committees.

Although he retired in June 2009, McFarland will continue his research at NIH as an emeritus scientist. He sees the future of MS research as focusing on new oral therapies, more advanced MRI imaging with stronger magnets that produce higher-resolution images, and genome-wide association studies (rapidly scanning genomes of many people to find genetic variations associated with MS).

He will continue to be involved with the Neuroimmunology Branch's ongoing study to find genetic markers that can predict whether patients will have a more benign or more aggressive course of the disease. McFarland hopes that such markers, if identified, will allow appropriate conventional or aggressive therapies to be individualized for each patient.

The most satisfying aspect of working at NIH has been "the ability to practice medicine as it should be practiced," he said. That means being able to spend plenty of time with chronically ill patients to help them understand their disease. "These patients are frightened; they're scared; they don't understand the disease process."



Henry McFarland, a pioneer in multiple sclerosis research, continues his work even in retirement.

Often in private practice and even at academic medical centers, physicians are limited in the amount of time they can spend with patients, he continued. But at NIH, "we will frequently spend an hour with a patient who's returning to clinic."

In the Neuroimmunology Branch, NINDS researchers are able to "not only look at clinical and MRI measurements and see how effective the drug is, but we can [also] marry that [understanding] with very good immunological and other biological measurements," he said. It's "something that is very difficult to do in other places."

Of his many accomplishments, McFarland is proudest of the fellows who were trained in the branch, many of whom have started their own MS research groups. Several have remained close personal friends as well as scientific collaborators. Kottil Rammohan, now director of the Multiple Sclerosis Center at Ohio State University Medical Center (Columbus), was one of the first fellows in McFarland's lab and remembers spending several months getting the lab up and running. By the time Rammohan left in 1982, the lab had grown from six to almost 20 people.

McFarland was "supportive, yet [gave] me the leeway to develop my own ideas," said former NINDS neuroimmunology fellow Michael Racke, who is now chair of Neurology at Ohio State University Medical Center.

Roland Martin, Director of the Institute for Neuroimmunology and Clinical MS Research in Hamburg, Germany, called McFarland "an exceptionally gifted mentor, who fosters confidence and motivates without pressure or control."

Other notable MS researchers who trained with McFarland include Peter Calabresi, professor of neurology and director of the MS Center at Johns Hopkins; Anne Cross, professor of neurology at Washington University in St. Louis; Rhonda Voskuhl, professor of neurology at University of California at Los Angeles; Bibiana Bielekova, who became associate professor of neurology and director of the Waddell Center for MS at the University of Cincinnati and then returned to the NINDS Neuroimmunology Branch as an investigator; and Steve Jacobson, chief of the branch's Viral Immunology Section.

McFarland has been recognized many times for his contributions to MS research. In 1998, he received the American Academy of Neurology's John Dystel Prize for Multiple Sclerosis Research and was cited for his significant influence on young scientists. In 2003, the Multiple Sclerosis International Federation presented him with the Charcot Award for his lifetime achievement in MS research.

"Few have devoted as much of their career to ending the devastating effects of MS; few have made as significant scientific contributions to the field," said Dr. Stephen Reingold, vice president, National MS Society, at the ceremony at which the Charcot Award was bestowed. "Few have combined these professional achievements with a dedication to the concerns and issues of the voluntary health agencies that represent the needs of people with MS and their families worldwide." ■

NIH Library

continued from page 1

on campus, with commanding stacks neat and regal-like centuries-old Oxford hedgerows, containing the published knowledge on anything a biomedical or behavioral researcher wanted to inquire about. This is the library-as-show-of-wealth perspective, an asset once as effective a recruitment tool as six weeks' paid vacation and guaranteed sabbaticals. Thus this cohort of researchers bemoans the recent loss of bound journals and the perceived death of the academic library.

Both perspectives are a bit off the mark, though.

Academic libraries are repositories of knowledge, not of artifacts. Librarians are the custodians of that facility, linking concepts with people seeking information. Pity us in the midst of this paradigm shift, as books give way to a new medium of thought and expression. There remains, the Library, with a capital L. And there remains the librarian whose core task—the provision of knowledge—is evolving rapidly to meet the changing demands of information consumers.

"The [NIH] library is the services we provide and the access to information, whether we hold it or not," said NIH Library Director Suzanne Grefsheim. "If our stacks are filled with the *idea* of a library instead of what people really need, then we're in danger."

The Disappearing Academic Library

Worldwide, libraries—the physical structures—face a similar fate of dwindling and coveted space and lack of physical usage. The 80-year-old Welch Medical Library at the Johns Hopkins School of Medicine in Baltimore is positively stunning with its Renaissance-style Indiana limestone exterior and a marble interior with painted ceilings, 17th-century Flemish tapestries, and a sculpture of Asclepius the Greek god of medicine, but on any given day it is also largely empty.

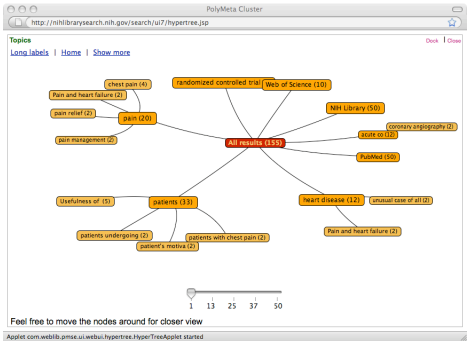
As such, the building will be closed for library services by 2012 and the library staff will move to other office space, according to library director Nancy Roderer. Services remain abundant, but they can be provided almost entirely remotely.

"Our mission statement says to support the information needs of our faculty and students," Roderer said. "It doesn't get into how we do this. Our users are enthusiastic about having library services wherever they are, be that the lab, the clinic, or the classroom or home."

The question that Roderer, Grefsheim and research library directors everywhere are asking is, "What is the best allocation of resources in terms of space, time, and money?" To possess bound copies of the *Journal of the American Medical Association* dating back to 1883 is impressive and might be the mark of a well-funded library, or at least an old library; this in turn could be a source of pride as well as a recruitment tool. Many question the value of lesser-known and more esoteric journal collections. At what price does this pride come?

Information Services

In the early 1990s when print journals were the norm, NIH scientists waited in lines to use one of nine library photocopiers; use was restricted to five minutes per person to keep that line moving. In addition, library staff filled nearly a half-million document requests annually. But user needs have changed.



Clustering is one feature of the new NIH Library search engine. For a search for "heart" and "pain," shown above albeit in tiny font, clustering (a) examines the most relevant 155 hits, (b) groups them into hits that share common terminology, such as five hits for "randomized controlled trial" and two hits on "pain management," and (c) avoids all references to the song "Achy Breaky Heart."

Providing information always has been a library's raison d'être. Now with information searches and retrieval in the hands of the user, librarians have assumed a more sophisticated role as information specialists to help researchers navigate through the "information smog," as NIH librarian Ben Hope describes it. Many librarians have advanced degrees in science or data management. They enable the NIH Library to offer new kinds of services.

One such service is the embedded librarian working in the same lab or clinical setting as a scientific team. There are now more than a dozen of them in the trenches at NIH. These informationists become expert in their team's science and provide connections to bodies of knowledge not possible a decade ago, far more than what can be squeezed out of tools such as PubMed and Google by the common user.

This is a valued service. "When people are willing to give you office space in Building 10, you know how important [librarians] are," said Hope, chief of the Information Architecture Branch.

Hope's group is reinventing the information architecture at the library, developing customized search engines for many groups, such as the Clinical Center nurses. Search engines such as Google, he explained, search on key words but with an emphasis on the popularity of topics, not pure science.

Similarly, the NIH Library is assembling customized databases, such as for stem cells and pandemic flu, that will be available in 2010. Librarians have mastered new skills that enable them to create and automatically update these databases.

"If you had just a regular database programmer and web designer doing it, you wouldn't get the search strategies and integration with all the external databases to pull in new information," said Hope. "That's the added value that this library brings."

For journal searches, the NIH Library's search engine is already more popular among NIH researchers than Google or PubMed, Hope said, mainly because it provides easier links to whole articles, not just abstracts. This fall, the library will debut a new search engine that taps into more than a dozen databases and search engines at once and delivers the results via a sophisticated clustering system.

"That's what we feel our role is now: to get NIH staff the information they need as seamlessly and quickly as possible," Grefsheim said.

New Physical Look

In 2008, the NIH Library was asked to give up about 8,000 square feet of space to several institutes and projects. Turning lemons into lemonade, the Library saw the request as an opportunity to renovate. The desire to modernize the facility, Grefsheim said, dates back to the early 1990s when a visitor asked why NIH had a Third World library—not for lack of services and materials but rather because of its dark, worn-out, and uninviting atmosphere.

The redesign of the library was done with the goal of improving the quality of life for the NIH staff, providing an atmosphere of an information commons.

Gone now are the brown rugs, brown interior, and poor lighting. The first floor is filled with natural light, which enters through floor-to-ceiling windows. Soft, deep chairs and round magazine tables harmonize with workstations, creating the feeling of a coffee house where talking is permitted and relaxing is encouraged. In fact, a new FAES–run coffee stand planned for the first floor of Building 10, just outside Masur Auditorium, will encourage customers to take their food and drink to the first floor of the library and to its new, adjoining green terrace. Fittingly, the space is geared up for wireless connectivity. The first floor also features glass-enclosed state-of-the-art training rooms.

The library's lower floor has the familiar library amenities: photocopy services, stacks, carrels, quiet areas, and writing centers. The idea is that, either upstairs or downstairs, one can escape the hectic environment of the lab.

One disadvantage of the downsizing has been the loss of 13 of the 24 locked carrels, creating a high demand for the remaining carrels. Library staff is surrendering much office space, too, resulting in more cramped conditions for them.

Nevertheless, Grefsheim is largely upbeat about the changes. "We had a lot of plans for this place for a long time, and they're all coming to fruition," she said.

Oh Yeah, Books Too

The NIH Library remains a rich resource for textbooks and new, popular health-themed books, adding more than 1,800 titles last year to its 60,000-plus collection. Any book the library doesn't have can be ordered via the library's integrated document-delivery system.

Other long-standing library services include one-on-one tutorials and journal translations into and from English. The new green terrace is just one initiative in the library's desire to be a LEED-certified (Leadership in Energy and Environmental Design) green building. Throughout the library, new walls and rugs are made from recycled materials manufactured and shipped with best environmental practices. The library prides itself as being largely paperless; even the document-delivery service is done via e-mail, with scanned OCR text of old journal articles.

The journey, tactile or virtual, begins in the south entrance of Building 10 or at http://nihlibrary.nih.gov. ■

Do you have an opinion or story about what makes a library great? Submit it to catalyst@nih.gov for the next issue of The NIH Catalyst.

Save Our Stacks

The trouble and hand wringing began in 2008 when the NIH Library was directed to provide upwards of 8,000 square feet of space to several institutes and projects, such as the new Center for Human Immunology, Autoimmunity and Inflammation. Keeping within known laws of physics, that meant having to remove something. The obvious space offenders were the stacks, thousands of linear feet of bound journals rarely, if ever, used by NIH researchers.

The NIH Library donated nearly 2,000 boxes of bound journals to Iraq to help recreate the Iraq National Library of Medicine. From left, Judy Levin of the Fogarty International Center; Jessica Feldman and Robin Marcato of International Relief and Development; neuroscientist Abdul-Hadi al-Khalili, Cultural Attaché at the Iraq Embassy; and NIH Library Director Suzanne Grefsheim.

Ah, but what to do with those 27 linear feet of *Acta Physiologica Hungarica*, *Acta Physiologica Polonica,* and *Acta Physiologica Scandinavica*? Some NIH scientists likened the concept of journal removal to book burning. Would we just say no to *No To Shinkei?* How likely was it that *Annals of Probability* would end up homeless? The decision of what to keep or jettison was charged to the Library Advisory Committee (LAC), led by Joshua Zimmerberg, chief of the Laboratory of Cellular and Molecular Biophysics, in the Eunice Kennedy Shriver National Institute of Child Health and Human Development.

The library had proposed to remove nearly all volumes that were available in a digital format, and it created a list of more than 1,200 titles for review. The LAC at first was against removing anything. One reason was that the scan quality of some journals was poor and that hardcopies were still needed, Zimmerberg said. Another reason was the feeling that a library, or at least the NIH Library, needed a "real" journal collection.

The LAC's plan to store these seldom-used volumes off campus ultimately met resistance from the scientific directors and others when the cost proved to be prohibitive. Nearly all of NIH Library's journal collection is available in a digital format. The library began the process in the early 1990s to systematically obtain electronic subscriptions, well before most other libraries. Today over 99 percent of its nearly 9,000 journal subscriptions are digital and about 50 percent are nearly fully digitally archived.

Given more space, the NIH Library could keep these bound journals. But preserving literature is really a role of the National Library of Medicine (NLM), Grefsheim said. So, faced with the task of freeing up space, Zimmerberg's group analyzed the usage and impact factor of each journal.

Impact factor, a measure of the frequency with which the average article in a journal has been cited in a particular year, published annually in *Journal Citation Reports*, is a proxy for the importance of a journal. The compromise of such an analysis, though, is that less important, albeit unique, journals score poorly by this criterion.

All of the journals removed were already mostly available at the NLM. NLM took some it didn't have to fill gaps in its collection. A few journals found homes in NIH offices and labs. Most of the journals, though, encompassing more than 1,000 titles and 10,000 volumes, were donated to the Iraq Board of Medical Specialties to serve as the nucleus for recreating an Iraq National Library of Medicine.

Judy Levin of the Fogarty International Center led this Iraq initiative, coordinating with Abdul-Hadi al-Khalili, a neuroscientist serving as Cultural Attaché at the Iraq Embassy and once chair of the Neuroscience Department at the University of Baghdad Medical School. Our journals have found a welcoming home. No books were burned.

Volunteers Ken Yamada, Bill Theodore, Julia Mazar, Paul Blank, Amanda Balaban, Jane Farrington, Leonid Margolis, Gulcin Pekkurnaz, Kamran Melikov, Sasha Chanturiya, Alan Schechter, Elena Mekhedov, and Evgenia Leikina helped to determine the needed space in the stacks and used their scientific expertise to assess the impact factor.

NIH Library Services: Popular Bioinformatics Trainer Joins NIH Library Staff

By Cindy Clark, NIH Library

Medha Bhagwat holds the key to unleashing the power of bioinformatics. As a newly minted NIH Library informationist and an experienced bioinformatics trainer, she is teaching NIH researchers to unleash, and harness, that power, too.

Bioinformatics—the intersection of biology, computer science, and mathematics—provides researchers with powerful tools to analyze and understand the biologic significance of a variety of data. The tools can supply information on specific genes; map, analyze, and compare different DNA and proteins; predict gene expression and protein-protein interactions; and more.

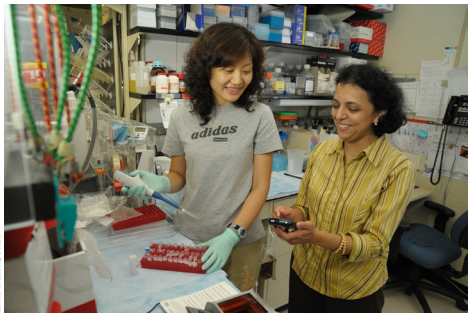
But not all researchers know how to use these tools to analyze their data. They turn to experienced bioinformatics trainers such as Bhagwat for help.

"There is a lot of information there," said Bhagwat's first Informationist Service customer, Yi Ding, a Clinical Center postdoctoral and visiting fellow. "We knew that, but we needed help." Bhagwat assisted Ding in downloading the upstream sequence of a specific gene. Within an hour Bhagwat taught Ding, who is part of a Critical Care Medicine Department research team, how to use the National Center for Biotechnology Information's (NCBI) Basic Local Alignment Search Tool (BLAST) for comparing gene and protein sequences against others in public databases. The solution saved Ding hours, possibly days, of work.

Bhagwat, a molecular biologist and biochemist with a Ph.D. from the University of Maryland (College Park), did her postdoctoral training at the National Institute of Diabetes and Digestive and Kidney Disorders. She honed her skills in bioinformatics during the 11 years she worked at NCBI. A division of the National Library of Medicine, NCBI was established in 1988 as a national resource for molecular biology information. It creates public databases, conducts research in computational biology, develops software tools for analyzing genome data, and disseminates biomedical information.

From 2001 to 2008, Bhagwat taught courses through NCBI's Core-Bioinformatics program and trained NIHers in the use of NCBI bioinformatics tools. She also published several articles and book chapters on her research and on bioinformatics and protocols.

Her courses, including a series of two-hour minicourses that she developed, were taught more than 400 times to about 12,000 participants. The popular instructor has made presentations on bioinformatics throughout the United States at professional meetings and universities, including Stanford (Palo Alto, Calif.), Purdue (West Lafayette, Ind.), and the Massachusetts Institute of Technology (Cambridge, Mass.).



Lynn Beamon, NIH

Clinical Center postdoc Yi Ding and NIH Library Informationist Medha Bhagwat discuss how a chain of events, which began with a bioinformatics consultation, led to Ding's successful cloning of a gene promoter sequence.

Bhagwat is especially helpful to researchers because "she was a bench scientist and she knows what scientists need," said Mary Ann Robinson, a microbiologist in the Research Technologies Branch at the National Institute of Allergy and Infectious Diseases (NIAID). "She knows computers; writes scripts; extracts data from databases."

She has a knack for teaching, too. "Her main strength is her ability to teach," said Robinson who took one of Bhagwat's courses. "She takes a topic, and in two hours, she takes people through a tool with the ability to use it."

And people flock to her training sessions.

"The fact that we had a packed house in Lipsett [Amphitheater] on a day with subfreezing temperatures speaks volumes about [her] reputation as an excellent lecturer," said Andy Baxevanis, Deputy Scientific Director, National Human Genome Research Institute (NHGRI).

Attendees have described Bhagwat's teaching as practical, friendly, patient, encouraging, effective, and gifted. "This is very helpful guidance for me to proceed on my own," wrote one minicourse respondent. "Without this tutorial today I would have to spend several hours by myself" learning to use the databases.

Some of the people Bhagwat trained via the NCBI courses have become the bioinformatics go-to people for their institutes. Two of those go-to people—staff scientist Tyra Wolfsberg at NHGRI and Robinson at NIAID—emphasized the value of having dedicated, trained bioinformatics experts who can address an institute's research questions. But for institutes that don't have their own bioinformatics experts, "Medha is a resource," said Wolfsberg.

When NCBI ended its bioinformatics training program in 2008, the NIH Library wasted no time in filling the gap. In keeping with its objective to support genetics and bioinformatics research more aggressively, the Library hired Bhagwat in February 2009. She conducts tutorials for individuals, labs, and groups on using bioinformatics resources available through NCBI, the NIH Library (such as GeneGo, Ingenuity, and Protein Lounge), and elsewhere. And she will begin teaching courses at the NIH Library in September.

John Paul SanGiovanni, staff scientist at the National Eye Institute (NEI) and project officer for the Age-Related Eye Disease Study 2 in NEI's Clinical Trials Branch, met Bhagwat more than two years ago when he was a student in one of her courses. Today they are collaborators. Bioinformatics has proved invaluable to him. "In the study of certain diseases it will be informative to move away from a single-gene hypothesis to examination of combined actions of genes with moderate effect sizes," he explained. "Looking at the key aspects of a biologic process will eventually help us identify promising drug targets."

Bhagwat aims to all show other researchers how bioinformatics can help them, too.

"Over the years, I've received a number of letters from people who've attended Bhagwat's training courses, all of them praising her teaching skills," said NCBI Director David Lipman, who oversaw NCBI's bioinformatics training program. "These days, it's rare for someone to take the trouble to write a letter [instead of] an e-mail." ■

To find out more about the NIH Library's bioinformatics resources, visit http://nihlibrary.nih.gov/ResearchTools/Bioinformatics.htm. For details on bioinformatics classes, or to request a consultation, contact Bhagwat at 301-496-2185 or bhagwat@mail.nih.gov. Her first class, "Sequence Analysis: Making Sense of DNA and Protein Sequences," will be held at the NIH Library on September 16, 1:30–3:30 p.m. Registration required.

Pioneer Awards Symposium

Mark your calendars for an event showcasing innovative research: the NIH Director's Pioneer Award Symposium on September 24–25, in the Clinical Center's Masur Auditorium, Building 10. The symposium is free, no registration is required, and everyone is welcome to attend all or parts of the event.

"Our Pioneer Award recipients have diverse research interests, but they all take bold, imaginative, and often risky approaches that hold the potential for great—and in some cases, transformative—impact," said Jeremy Berg, director of the National Institute of General Medical Sciences (NIGMS), which runs the program. "It is always an intellectually stimulating experience to hear about their research and interact with them during the course of their annual symposium."

September 24: 8:30 a.m., 2009 awardees will be announced; 9:00 a.m.: The keynote address, entitled "Habits and Habitats of Inventive People," will be given by Arthur Molella, founding director of the Smithsonian Institution's Lemelson Center for the Study of Invention and Innovation. Molella has written extensively on the relationships between science, technology, and culture and has directed such major exhibitions as the Smithsonian's "Science in American Life" and "Nobel Voices." Other: The Pioneer Award class of 2008 (http://nihroadmap.nih.gov/pioneer/Recipients08.aspx) will give 10-minute presentations on their work.

September 25: Members of the first "graduating class" of Pioneer Award recipients (http://nihroadmap.nih.gov/pioneer/Recipients04.aspx) will give 30-minute talks on their accomplishments. Roundtable discussion on "Innovation: Interplay Between Technology Development and Hypothesis-Driven Research," at 11:15 a.m.

Both days: Poster sessions; receptions.

The full agenda is at http://nihroadmap.nih.gov/pioneer/symposium2009. The event will also be videocast live and archived at http://videocast.nih.gov. Direct questions or requests for reasonable accommodations to Shan McCollough, NIGMS, smccollough@nigms.nih.gov, 301-594-3555.

The symposium is supported in part by the Foundation for the National Institutes of Health. For more information see http://nihroadmap.nih.gov/pioneer/ and http://nihroadmap.nih.gov/newinnovator. —*Ann Dieffenbach, NIGMS*

ANNOUNCEMENTS

WALS to Begin on September 16 Wednesdays, 3:00 p.m. Masur Auditorium (Building 10)

The Wednesday Afternoon Lecture Series kicks off the 2009-2010 season with Dr. Helen Piwnica-Worms, the Gerty T. Cori Professor of Cell Biology and Physiology at Washington University in St. Louis. She will present "Targeting Chk1 in Breast Cancer."

BREAKING NEWS: On September 23, 2009, the National Center on Minority Health Disparities in partnership with the Office of Intramural Research will host Maya Angelou—renowned poet, novelist, educator, and actress—as a WALS presenter. Seating is on a first-come, first-served basis. Overflow seating will be available in Lipsett Amphitheater.

To learn more about the "research all-stars" coming to campus this year, visit the new WALS website at http://wals.od.nih.gov. For questions or requests, please contact Sarah Freeman at sarah.freeman@nih.gov or 301-594-6747.

NIH Research Festival October 6–9

Don't miss the 2009 NIH Research Festival, the annual showcase of our world-class NIH Intramural Research Program, October 6–9, 2009, on the Bethesda campus. The festival begins on Tuesday, October 6, in Masur Auditorium (Building 10) with NIH Director Francis Collins delivering opening remarks from 9:00 to 9:30 a.m., followed by a plenary session on "Influenza A—Pathogenesis and Pandemics," from 9:30 to 11:30 a.m. The rest of the activities—symposia, exhibits, poster displays, receptions, and more—on Tuesday and Wednesday will take place in the Natcher Conference Center (Building 45). The Fellows Award for Research Excellence (FARE) Awards Ceremony and Reception will be held on Tuesday afternoon, 4:15–6:00 p.m. On Thursday and Friday, the Technical Sales Association Research Festival Exhibit Tent Show will be in parking lot 10H. For a schedule of events, go to http://researchfestival.nih.gov. For more information, contact researchfest@mail.nih.gov.

BTRIS Town Hall Meeting Tuesday, September 15, 2:00 p.m. Lipsett Amphitheater (Building 10)

All staff members are welcome to attend the BTRIS Town Hall Meeting. Jim Cimino, Director, BTRIS Project and Chief of the Clinical Center's Laboratory for Informatics Development, will talk about how BTRIS will provide powerful new tools for enhancing the research process. BTRIS (Biomedical Translational Research Information Systems), a new intramural NIH information system for managing research data, is a repository for clinical research data collected from NIH research protocols, intramural as well as extramural. For more information, go to http://btris.nih.gov.

"Demystifying Medicine" Register Now for Spring Semester

The NIH's novel and popular course "Demystifying Medicine," now in its eighth year, will be held every Tuesday from 4:00 to 6:00 p.m. in the Building 50 auditorium from January 12 to May 11, 2010. Although primarily for Ph.D. scientists and students, the course is widely attended by other students, physicians, and administrative staff. The course involves patients, clinicians, and basic scientists, and it concerns major human diseases. Refer to http://demystifyingmedicine.od.nih.gov/ for 2009 course contents for an overview. Those seeking academic credit should register through FAES (http://www.faes.org). If not seeking credit, register by sending an e-mail to Listserv@list.nih.gov and subscribe DeMystifyingMed.your name. For further information, contact Win Arias, course director, ariasi@mail.nih.gov.

CORRECTION

The story submitted by NIEHS for the June 2009 *NIH Catalyst* contained incorrect budget numbers (page 1, paragraph 3). The NIEHS Laboratory of Molecular Genetics actually receives $6 million dollars in funding each year from the $850 million NIEHS annual budget. The information has been corrected in the online version of this publication. *The NIH Catalyst* regrets the error.

Annual Update

Scientific Interest Group Directory

Scientific Interest Groups, a.k.a. NIH Inter-institute Interest Groups, are assemblies of scientists with common research interests. These groups are divided into seven broad, process-oriented parent groups, or faculties, and more than 100 smaller, more focused groups centered on particular research models, subjects, or techniques. The latter groups are initiated and run by scientists in the Intramural and Extramural Research Programs at NIH. The interest groups sponsor symposia, poster sessions, and lectures; offer mentoring and career guidance for junior scientists; help researchers share the latest techniques and information; act as informal advisors to the Deputy Director for Intramural Research; provide advice for the annual NIH Research Festival; and serve as hosts for the Wednesday Afternoon Lecture Series.

To create a SIG, contact Office of Intramural Research (OIR) Communications Director Christopher Wanjek (wanjekc@od.nih.gov). The following list contains active SIGs, to the best of our knowledge, although an asterisk indicates the SIG did not confirm meeting and contact information. A current list is always posted at http://www.nih.gov/sigs.

MAJOR INTEREST GROUPS

Cell Biology Interest Group
Contact: Jennifer Lippincott-Schwartz, jlippin@helix.nih.gov
http://www.nih.gov/sigs/cellbio
LISTSERV: CELBIO-L@list.nih.gov

Clinical Research Interest Group
Contact: Cliff Lane, 301-496-7196
http://www.nih.gov/sigs/clinres

Genetics Interest Group
Contact: in transition; contact Christopher Wanjek, wanjek@mail.nih.gov
http://sigs.nih.gov/genetics
LISTSERV: GIG-L@list.nih.gov

Immunology Interest Group
Meeting time/place: seminars 4:15 p.m. Weds.; Bldg. 10, Lipsett Amphitheater
Contact: Juan Rivera, riveraj@mail.nih.gov
http://sigs.nih.gov/immunology
LISTSERV: IMMUNI-L@list.nih.gov

Molecular Biology/Biochemistry Interest Group
Contact: in transition; contact Christopher Wanjek, wanjek@mail.nih.gov
http://www.nih.gov/sigs/mbbig

Neurobiology Interest Group
Meeting time/place: most Fridays at 4 p.m.; Building 35/BB-1000
Contact 1: Mark Stopfer, 301-451-4534, stopferm@mail.nih.gov
Contact 2: Jeff Diamond, 301-435-1896, diamondj@ninds.nih.gov
http://sigs.nih.gov/neurobiology

Structural Biology Interest Group
Meeting time/place: 3rd Thursdays, 4 p.m.; Building 50, 1st-floor conference room; plus other events
Contact: Alasdair Steven, 301-496-0132, stevena@mail.nih.gov
http://sigs.nih.gov/sbig
LISTSERV: STRUCTBIOLIG@list.nih.gov

OTHER INTEREST GROUPS

14-3-3 Protein Interest Group*
Meeting time/place: varies
Contact: David Klein, 301-496-6915, kleind@mail.nih.gov
http://sigs.nih.gov/1433

Acetyltransferase Interest Group*
Meeting time/place: varies
Contact: David Klein, kleind@mail.nih.gov

Advanced Pharmaceutical Screening Interest Group
Meeting time/place: TBA
Contact: June Lee, 301-435-6987, junelee@helix.nih.gov
http://sigs.nih.gov/apsig
LISTSERV: APSIG@list.nih.gov

AIDS Interest Group
Meeting time/place: by announcement
Contact: Leonid Margolis, 301-594-2476, margolis@helix.nih.gov
http://sigs.nih.gov/AIDS
LISTSERV: AIDSINTG-L@list.nih.gov

Animal Well-Being Interest Group
Meeting time/place: quarterly; Bldg. 14G
Contact: Jim Weed, 301-435-7257, weedj@mail.nih.gov
http://sigs.nih.gov/AWIG

Apoptosis Interest Group
Meeting time/place: 1st Mondays, 4 p.m.; Bldg. 49, Room 1 50/59AB
Contact: Richard Youle, 301-496-6628, youler@ninds.nih.gov
http://sigs.nih.gov/cell-death
LISTSERV: AIG-L@list.nih.gov

Behavioral & Social Sciences Interest Group
Meeting time/place: lecture series, varies
Contact: Ronald Abeles, 301-496-7859, abeles@nih.gov
http://sigs.nih.gov/bssrig
LISTSERV: BSSRIG-L@list.nih.gov

Bioethics Interest Group
Meeting time/place: 1st Mondays Sept–June, 3–5 p.m.; usually Natcher Room D
Contact: Miriam Kelty, 301-229-5639, keltym@mail.nih.gov
http://sigs.nih.gov/bioethics

Bioinstrumentation Interest Group*
Meeting time/place: varies
Contact: Paul Smith, 301-435-1945, smithpa@ors.od.nih.gov

Biological Visualization Interest Group
Meeting time and place: 1st Wednesday; Bldg. 31, Rm. 2A48
Contact: Jeremy Swan, 443-538-8689, swanjere@mail.nih.gov
http://science.nichd.nih.gov/confluence/display/bvig
LISTSERV: BIOVIZ-L@list.nih.gov

Biomedical Computing Interest Group
Meeting time/place: 2nd Thurs. 3–4:30 p.m. (lecture), 4th Thurs. 5:30–7 p.m. (book club)
Contacts: Jim DeLeo, 301-496-3848, jdeleo@nih.gov; Carl Leonard, cleonard@lired.com
http://www.nih-bcig.org
LISTSERV: BCIG-L@list.nih.gov

Biomedical Research History Interest Group
Meeting time/place: varies
Contacts: Eric Boyle, 301-443-4649, boyleew@mail.nih.gov; Barbara Harkins, 301-496-8856, harkinsb@mail.nih.gov
http://sigs.nih.gov/brhig
LISTSERV: BRHIG-L@list.nih.gov

Biophysics Interest Group*
Meeting time/place: seminars, varies
Contact: Peter Basser, 301-435-1949, pjbasser@helix.nih.gov
http://sigs.nih.gov/biophysics
LISTSERV: BIOPHYSICSSIG-L@list.nih.gov

Biosciences Business Interest Group
Meeting time/place: varies, usually monthly 12–1 p.m.; Bldg. 37, 4th-floor conf. room
Contact: Val Bliskovsky, 301-594-5498, bliskovv@mail.nih.gov
http://www3.cancer.gov/bbig
LISTSERV: BIOSCIBUS-L@list.nih.gov

Biospecimens Interest Group
Meeting time/place: TBA, regular seminars
Contacts: Yaffa Rubinstein, 301-402-4336, rubinsty@mail.nih.gov; Helen Moore, 301-496-1550, moore@mail.nih.gov
http://sigs.nih.gov/biospecimens
LISTSERV: BIOSPECIMENS@list.nih.gov

Calcium Interest Group
Meeting time/place: no standing meeting
Contacts: Arthur Sherman, 301-496-4325, asherman@nih.gov; Indu Ambudkar, 301-496-5298, iambudkar@dir.nidcr.nih.gov
http://sigs.nih.gov/cig
LISTSERV: CALCIUM-L@list.nih.gov

Cell Cycle Interest Group
Meeting time/place: varies; spring symposium
Contacts: Mirit Aladjem, 301-435-2848, aladjemm@mail.nih.gov; Munira Basrai, basraim@mail.nih.gov; Mary Dasso, mdasso@helix.nih.gov
http://sigs.nih.gov/cellcycle
LISTSERV: CELL_CYCLE_IG@list.nih.gov

Cell & Molecular Neuroscience IG*
Contact: Ron McKay, mckayr@ninds.nih.gov

Chemistry Interest Group
Meeting time/place: TBA
Contacts: Dan Appella, 301-451-1052, appellad@niddk.nih.gov; Carole Bewley, caroleb@intra.niddk.nih.gov; Kenneth Jacobson, kajacobs@helix.nih.gov; John Schwab, schwabj@nigms.nih.gov
http://sigs.nih.gov/chemistry
LISTSERV: CHEMIG@list.nih.gov

Chromatin & Chromosomes IG*
Contact: David Clark, clarkda@mail.nih.gov
http://sigs.nih.gov/ccig

Chronobiology Interest Group
Meeting time/place: varies
Contact: Steven Coon, 301-451-6622, coons@mail.nih.gov
http://sigs.nih.gov/chronobiology
LISTSERV: CHRONIG-L@list.nih.gov

Clinical Applications of Stem Cells IG*
Contact: Manfred Boehm, boehmm@nhlbi.nih.gov

Clinical Pharmacology Interest Group
Meeting time/place: course and meeting Thurs. Sept–Apr, 6:30 p.m.; Bldg. 10, Lipsett
Contact: Donna L. Shields, 301-435-6618, dshields@mail.cc.nih.gov
http://sigs.nih.gov/cpig
LISTSERV: CLINPHARMACOL-L@list.nih.gov

Cognitive Neuroscience Consortium*
Meeting time/place: bimonthly, last Weds., 4:15 p.m.; NSC Bldg., Rm. 2172; plus forums
Contact: Emmeline Edwards, 301-496-9248, ee48r@nih.gov
http://sigs.nih.gov/cnc
LISTSERV: CNC@list.nih.gov

Critical Illness & Injury Interest Group
Meeting time/place: varies; 3–day conference in December 2009
Contacts: Anthony Suffredini, 301-402-3485, asuffredini@cc.nih.gov; Scott Somers, 301-594-3827, somerss@nigms.nih.gov
http://sigs.nih.gov/criticalillness

Cytokine Interest Group
Meeting time/place: committee meets thrice yearly, plus three day-long symposia
Contact: Daniela Verthelyi, 301-827-1702, daniela.verthelyi@fda.hhs.gov
http://sigs.nih.gov/cytokines
LISTSERV: CYTOKN-L@list.nih.gov

Data & Resources Sharing Interest Group
Meeting time/place: 4th Wednesdays, 3–4:30 p.m.; Rockledge 1, Rm. 5147
Contacts: J.P. Kim, 301-435-0679, jpkim@nih.gov; Marilyn Miller, millerm@nia.nih.gov

DNA Repair Interest Group
Meeting time/place: 3rd Tuesdays, 12:30 p.m. Natcher with 15 videoconf. sites
Contacts: Kenneth Kraemer, kraemerk@nih.gov; Vilhelm Bohr, vbohr@nih.gov
http://sigs.nih.gov/DNA-repair
LISTSERV: DNAREPAIR-L@list.nih.gov

Domestic Violence Research Interest Group
Meeting time/place: TBA
Contact: John Umhau, 301-496-7515, umhau@nih.gov
http://sigs.nih.gov/domesticviolence

Drosophila Interest Group
Meeting time/place: 3rd Tuesdays, 1:15 p.m.; Bldg. 6B, Rm. 4B429
Contact: Jim Kennison, 301-496-8399, Jim_Kennison@nih.gov
http://sigs.nih.gov/drosophila
LISTSERV: DROSOPHILA-L@list.nih.gov

Drosophila Neurobiology Interest Group*
Meeting time/place: every other Friday, noon; Bldg. 35, Rm. BB-1000
Contact: Ward Odenwald, 301-496-5940, OdenwaldW@mail.nih.gov
http://sigs.nih.gov/DNIG

Economics Interest Group
Meeting time/place: intermittent
Contacts: James A. Schuttinga, 301-496-2229, schuttij@nih.gov; Xingzhu Liu, 301-402-6681, Xingzhu_Liu@nih.gov
http://sigs.nih.gov/economics

Emergency Preparedness and Biodefense Interest Group
Meeting time/place: TBA
Contact: Jeffrey Kopp, 301-594-3403, jbkopp@nih.gov
http://sigs.nih.gov/EPB
LISTSERV: EPBSIG-MEMBERS-L@list.nih.gov

Endocrinology Interest Group
Meeting time/place: varies
Contact: Karel Pacak, 301-402-4594, karel@mail.nih.gov
http://sigs.nih.gov/endocrinology

Epidemiology & Clinical Trials Interest Group
Meeting time/place: varies
Contacts: Martina Vogel-Taylor, 301-496-6614, martinav@nih.gov; Linda Witt, 301-496-1106, Linda_Witt@nih.gov
http://sigs.nih.gov/epidemiology
LISTSERV: EPIDEM-L@list.nih.gov

Epigenetics Interest Group
Meeting time/place: varies
Contact: Mukesh Verma, 301-594-7344, Vermam@mail.nih.gov
http://sigs.nih.gov/epigenetics

Epilepsy Interest Group*
Meeting time/place: varies
Contact: William Theodore, 301-496-1505, theodorw@ninds.nih.gov
http://epilepsy.sig.nih.gov

Epithelial Transport Biology Interest Group*
Meeting time/place: varies
Contact: Viswanathan Raghuram, 301-402-1311, raghuramv@mail.nih.gov
http://sigs.nih.gov/ETBIG
LISTSERV: EPITHELIAL-L@list.nih.gov

Flow Cytometry Interest Group
Meeting time/place: two all-day meetings per year; Bldg. 10, Lipsett Ampitheater
Contacts: Bill Telford, 301-435-6379, telfordw@mail.nih.gov; Jim Simone, 301-594-6191, simonej@mail.nih.gov
http://sigs.nih.gov/FCIG
LISTSERV: FCIG-L@list.nih.gov

Fluorescence Interest Group
Meeting time/place: TBA
Contacts: Jay Knutson, 301-496-2557, jaysan@helix.nih.gov; Dan Sackett, 301-594-0358, sackettd@mail.nih.gov
http://sigs.nih.gov/fluorescence

Free Radical Interest Group
Meeting time/place: 3rd Weds. 4–5 p.m.; Bldg. 10, Rm. 9S235
Contact: Michael Graham Espey, SP@nih.gov or O2club@mail.nih.gov
http://sigs.nih.gov/freeradical

Glycobiology Interest Group
Meeting time/place: monthly seminar series, invited seminars, and Glycosciences Day each May
Contact: Pamela Marino, 301-594-3827, marinop@nigms.nih.gov
http://sigs.nih.gov/GBIG
LISTSERV: GLYCO-L@list.nih.gov

Handheld Users Group*
Meeting time/place: TBA (group reforming)
Contact: Ben Hope, 301-594-6473, tallguy@nih.gov
http://sigs.nih.gov/HUG

Head & Neck Cancer Interest Group
Meeting time/place: varies
Contacts: Alfredo Molinolo, 301-402-7434, amolinol@mail.nih.gov; Carter Van Waes, 301-402-4216, vanwaesc@nidcd.nih.gov;
http://sigs.nih.gov/head-neck

HTS Assay Development Interest Group
Meeting time/place: varies
Contacts: Ingrid Li, 301-443-1421, ili1@mail.nih.gov; James Inglese, 301-496-7029, jinglese@mail.nih.gov
http://sigs.nih.gov/HADIG
LISTSERV: HADIG@list.nih.gov

Hypoxia Inducible Factor (HIF) Interest Group*
Contact: Tawnya McKee, mckee@ncifcrf.gov

Image-Guided Interventions Group
Meeting time/place: no longer meeting
Contact: John W. Haller
http://sigs.nih.gov/igi
LISTSERV: IGI_GROUP@list.nih.gov

Image Processing Interest Group*
Meeting time/place: varies
Contacts: Benes Trus, 301-402-7676, Benes_Trus@nih.gov; Matt McAuliffe, 301-594-2432, matthew.mcauliffe@nih.gov
http://image.nih.gov
LISTSERV: IMAGE@list.nih.gov

Annual Update

Scientific Interest Group Directory (cont.)

Infectious Disease Imaging Interest Group*
Meeting time/place: varies
Contact: Mike Bray; 301-451-5123; mbray@niaid.nih.gov
http://sigs.nih.gov/IDIIG
LISTSERV: IDIIGLIST-L@list.nih.gov

Integrative Neural-Immune Interest Group*
Meeting time/place: varies
Contact: Socorro Vigil-Scott, 301-496-9255, vigilscs@mail.nih.gov
http://neuralimmune.nih.gov

Integrative Neuroscience Interest Group
Meeting time/place: varies
Contacts: Bruce Cumming, 301-496-1216, bgc@lsr.nei.nih.gov; Mitchell Smith, mitch@lsr.nei.nih.gov
LISTSERV: INT-NEUROSCI-L@list.nih.gov

In Vivo NMR Interest Group*
Contact: Jeff Duyn, 301-594-7305, jhd@helix.nih.gov
http://sigs.nih.gov/invivonmr
LISTSERV: INVIVONMR-L@list.nih.gov

Lab Managers Interest Group
Meeting time/place: 2nd Thursdays, noon; Building 40, Rm. 1203
Contact: Dawn Walker, 301-402-7149, walkerd@exchange.nih.gov
http://sigs.nih.gov/lab_managers
LISTSERV: LOCL-L@list.nih.gov

Lambda Lunch (Bacterial and Phage Genetics)
Meeting time/place: Thursdays, 11 a.m.; Bldg. 37, Rm. 6107/6041
Contacts: Susan Gottesman, 301-496-3524, susang@helix.nih.gov; Robert Weisberg, 301-496-3555, rweisberg@nih.gov
http://www.nih.gov/sigs/lambda
LISTSERV: LAMBDA_LUNCH-L@list.nih.gov

Light Microscopy Interest Group
Meeting time/place: varies
Contacts: Christian Combs, 301-496-3236, combsc@nhlbi.nih.gov; James McNally, 301-402-0209, mcnallyj@mail.nih.gov
http://sigs.nih.gov/LightMicroscopy
LISTSERV: LIGHT_MICRO_INTER-ESTL@list.nih.gov

Liver Biology Interest Group
Meeting time/place: varies
Contact: Bin Gao, 301-443-3998, bgao@mail.nih.gov
http://sigs.nih.gov/LBIG

MRI and Spectroscopy Interest Group*
Meeting time/place: TBA
Contact: Doug Morris, MorrisD@ninds.nih.gov, 301-402-1613
http://sigs.nih.gov/mris

Mass Spectrometry Interest Group
Meeting time/place: 1st Thursdays, 10:30 a.m.; Bldg. 10, Rm. 7S235
Contact: Peter Backlund, 301-402-5515, backlunp@mail.nih.gov
http://sigs.nih.gov/msig
LISTSERV: MASS_SPEC_IG@list.nih.gov

Membrane Protein Interest Group
Meeting time/place: Tuesdays as scheduled, 1 p.m.; Bldg. 35, Rm. BB1000
Contact: Reinhard Grisshammer, 301-594-9223, rkgriss@helix.nih.gov
http://sigs.nih.gov/mpig
LISTSERV: MPIG-L@list.nih.gov

Metabolomics Scientific Interest Group
Meeting time/place: varies (new SIG)
Contact: Padma Maruvada, maruvadp@mail.nih.gov
http://sigs.nih.gov/metabolomics
LISTSERV: METABOLOMICS@list.nih.gov

Microarray Users Group
Meeting time/place: usually 1st Wednesdays 10–11 a.m.; Journal Club meets 3rd Thursdays at 4 p.m.; place varies
Contact: Katherine Peterson, 301-402-5678, petersonk@nei.nih.gov
http://sigs.nih.gov/musig
LISTSERV: Microarray-User-L@list.nih.gov

Mitochondria Interest Group
Meeting time/place: frequent but varies
Contact: Steve Zullo, 301-435-2810, zullost@csr.nih.gov
http://sigs.nih.gov/mito
LISTSERV: MITOCHONDRIA-L@list.nih.gov

Molecular & Functional Biophotonics Interest Group
Meeting time/place: TBA
Contacts: Amir Gandjbakhche, 301-435-9235, amir@helix.nih.gov; Jana Kainerstorfer, kainersj@mail.nih.gov; Jason Riley, rileyja@mail.nih.gov
http://sigs.nih.gov/BioPhotonics
LISTSERV: OPTICALIMAGING@list.nih.gov

Molecular Modeling Interest Group*
Meeting time/place: varies; Bldg. 12 conf. rm.
Contact: Peter Steinbach, 301-496-1100, steinbac@helix.nih.gov
http://mmignet.nih.gov

Motility Interest Group
Meeting time/place: varies
Contact: Jim Sellers, 301-496-6887, sellersj@nhlbi.nih.gov
http://sigs.nih.gov/motility
LISTSERV: MOTILITY-L@list.nih.gov

Mouse Club*
Meeting time/place: 1st Tuesdays, 4 p.m.; Bldg. 6A, Rm. 4A05
Contact: Heiner Westphal, 301-402-0545, hw@mail.nih.gov

Mucosal Immunology Interest Group
Meeting time/place: last Fridays, noon; Bldg. 40, VRC Rm. 1201
Contact: Warren Strober, 301-496-7473, wstrober@niaid.nih.gov
http://sigs.nih.gov/MIIG
LISTSERV: MIIG@list.nih.gov

Muscle Interest Group
Meeting time/place: varies; usually Bldg. 40, Rm. 1203 or 1205
Contact: Andres Buonanno, 301-496-0170, buonanno@mail.nih.gov
http://sigs.nih.gov/muscle
LISTSERV: Muscle-IGL@list.nih.gov

Nanomedicine-Nanotech IG*
Meeting time/place: varies
Contacts: Kuan Wang, wangk@mail.nih.gov; Jeffrey Forbes, forbesj@mail.nih.gov
http://sigs.nih.gov/nano

Neural Cell Function Interest Group*
Meeting time/place: usually 3rd Fridays, 2:30–5 p.m.; Bldg. 49, Rm. 1A-51
Contact: Lee Eiden, 301-496-4110, eidenl@mail.nih.gov
http://sigs.nih.gov/NCFig

Neurodevelopmental Disorders IG*
Meeting time/place: 2nd Thursdays, 12:30–1:30 p.m.; Bldg. 10, Rm. 2-3330
Contact: Teresa Huggins, 301-435-3781, TeresaHuggins@mail.nih.gov
http://sigs.nih.gov/ndd
LISTSERV: NEURO_DEV_DIS-L@list.nih.gov

Neuroinformatics Scientific Interest Group
Meeting time/place: varies
Contact: Kathryn Bognovitz, 301-443-1815, kbognovi@mail.nih.gov
http://sigs.nih.gov/neuroinformatics
LISTSERV: NEUROINFOIG-L@list.nih.gov

Nonhuman Primate Neurobiology Research Interest Group
Meeting time/place: 12:30–2:00 p.m.; day and place varies
Contact: Matthew Novak, 301-435-9279, novakm@mail.nih.gov
http://sigs.nih.gov/monkey

Nurse Practitioner Interest Group
Meeting time/place: TBA
Contact: Stacey Solin, 301-451-4236, solins@cc.nih.gov
http://sigs.nih.gov/np

Pain Interest Group
Meeting time/place: 2nd Tuesdays, 3:30 p.m.; Bldg. 49, Rm. 1A51
Contact: Michael Iadarola, 301-496-2758, miadarola@dir.nidcr.nih.gov
http://sigs.nih.gov/pain

Patent Law & Technology Transfer Interest Group
Meeting time/place: varies (TBA)
Contacts: Cameron Good, goodc@mail.nih.gov; Thomas Paul, paulth@mail.nih.gov
http://sigs.nih.gov/patent
LISTSERV: PATENT_SIG_L

Pediatric Clinical Research & Outcomes Interest Group*
Meeting time/place: varies
Contact: Steven Hirschfeld, 301-496-0044, hirschfs@mail.nih.gov
http://sigs.nih.gov/pedoutcomes
LISTSERV: PEDIATRICCLINRES@list.nih.gov

Pediatric Neuroimaging Interest Group*
Meeting time/place: varies
Contact: Lisa Freud, 301-435-6879, freundl@mail.nih.gov
http://sigs.nih.gov/pedneuroimaging

PET Interest Group
Meeting time/place: Fridays as scheduled, 2 p.m.; PET Dept. (Bldg. 10 Rm. 1-5674)
Contact: Peter Herscovitch, 301-451-4248, herscovitch@nih.gov
http://sigs.nih.gov/PET
LISTSERV: PETINT-L@list.nih.gov

Phage-Tech Interest Group*
Meeting time/place: varies
Contact: Rotem Edgar, 301-451-8820, edgarr@mail.nih.gov
http://sigs.nih.gov/Phage

Pharmacogenetics Interest Group*
Meeting time/place: last Thursdays, 3:30–5:00 p.m.; Rockledge 2
Contact: Pothur Srinivas, 301-435-0550, srinivap@mail.nih.gov
http://sigs.nih.gov/PhIG
LISTSERV: PHIG-L

Pigment Cell Research Interest Group
Meeting time/place: 3rd Thurs., 12:30-2:00 p.m.; Bldg. 49, Rm. 1A51; yearly daylong meeting
Contacts: Tom Hornyak, 301-451-1926, hornyakt@mail.nih.gov; Julio C. Valencia, 301-402-9875, valencij@mail.nih.gov
http://sigs.nih.gov/pigment
LISTSERV: PIGINTGRP@list.nih.gov

Polyunsaturated Lipid Function Interest Group*
Meeting time/place: TBA
Contact: John Paul SanGiovanni, 301-496-6583, jpsangio@nei.nih.gov
http://sigs.nih.gov/pufa
LISTSERV: PLFSIGL@list.nih.gov

Prostate Cancer Interest Group*
Contact: Marston Linehan, 301-496-6353, linehanm@mail.nih.gov

Protein Trafficking Interest Group
Meeting time/place: 2nd Tuesdays, 3:30–5:00 p.m.; Bldg. 50, Rm. 2328
Contact: Manu Hegde, 301-496-4855, hegder@mail.nih.gov
LISTSERV: ProtTRAF-L@list.nih.gov

Proteomics Interest Group
Meeting time/place: monthly seminar series in Bldg. 50; usually first Fridays
Contact: Sanford Markey, 301-496-4022, markeys@mail.nih.gov
http://proteome.nih.gov/
LISTSERV: PROTIG@list.nih.gov

Retinal Diseases Interest Group
Meeting time/place: usually 2nd Tues. or Weds.; Bldg. 10, Rm. 10N202 (Cogan room)
Contacts: James Friedman, friedmanja@mail.nih.gov; Tiziana Cogliati, cogliatitp@nei.nih.gov
http://sigs.nih.gov/rdig
LISTSERV: RDIG-L@list.nih.gov

NIH RNA Club
Meeting time/place: 1st Tuesdays, 4 p.m.; Bldg. 31, Rm. 2A48
Contact: Rich Maraia, 301-402-3567, maraiar@mail.nih.gov
http://sigs.nih.gov/NIH_RNA_Club
LISTSERV: RNACLUB-L@list.nih.gov

Staff Scientists/Staff Clinicians Organization
Meeting time/place: 2nd Thursdays, noon; Bldg. 40, Rm. 1203
Contact: Michael Difilippantonio, 301-496-6278, difilipm@mail.nih.gov
http://sigs.nih.gov/NIH_SSSC
LISTSERV: STAFFSCIENTIST-L@list.nih.gov

Stem Cell Interest Group*
Meeting time/place: monthly seminars
Contacts: Nadya Lumelsky, 301-451-9834, nadyal@nidcr.nih.gov; Manfred Boehm, 301-435-7211, boehmm@nhlbi.nih.gov
http://sigs.nih.gov/SCIG
LISTSERV: STEMCELL_IG-L@list.nih.gov

Stroke Branch Interest Group*
Meeting time/place: varies at Suburban Hospital and Washington Hospital
Contacts: Jose Merino, 301-435-9321, merinoj@ninds.nih.gov; John Kylan Lynch, 301-451-7968, LynchJ@ninds.nih.gov

Synaptic and Developmental Plasticity IG*
Meeting time/place: bimonthly on a Tuesday, 11 a.m.; Bldg. 35, Rm. BB1000
Contact: Bai Lu, bailu@mail.nih.gov
http://sigs.nih.gov/sdpig

Systems Biology Interest Group*
Meeting time/place: 1st Thursdays, 2 p.m., monthly seminars; Bldg. 10, Rm. 7S235
Contacts: Eric Billings, 301-496-6520, billinge@nhlbi.nih.gov; David Balshaw, 919-541-2448, balshaw@niehs.nih.gov
http://sysbiosig.nih.gov
LISTSERV: SYSBIOSIG-L@list.nih.gov

TGF-beta Special Interest Group
Meeting time/place: TBA (new SIG)
Contact: Sushil Rane, ranes@niddk.nih.gov

Tissue Microdissection Interest Group
Meeting time/place: TBA
Contact: Jaime Rodriguez-Canales, 301-402-5942, rodrigja@mail.nih.gov
LISTSERV: LCM@list.nih.gov

Tobacco & Nicotine Research Interest Group
Meeting time/place: 4th Wednesday bimonthly, 2–3:30 p.m.; place varies yearly
Contact: Allison Hoffman, 301-402-5088, HoffmanAL@mail.nih.gov
http://sigs.nih.gov/tobacco
LISTSERV: NIH-TOBACCO@list.nih.gov

Transcription Factor Interest Group
Meeting time/place: most 1st Thursdays, 2 p.m.; Bldg. 50, 1st-floor conf. room
Contact: Stoney Simons, 301-496-6796, steroids@helix.nih.gov
http://sigs.nih.gov/tfactors
LISTSERV: TFACTORS@list.nih.gov

Trans-Institute Angiogenesis Research Program*
Meeting time/place: varies
Contacts: William Figg, wdfigg@helix.nih.gov; Steven Libutti, slibutti@nih.gov
http://www.tarp.nih.gov

Translational Research Interest Group
Meeting time/place: varies
Contact: Min Song, songm@mail.nih.gov
http://sigs.nih.gov/trig
LISTSERV: TRIG-L@list.nih.gov

Viral Hepatitis Interest Group
Meeting time/place: One Monday monthly, 2–3:30 pm, Bldg. 10, Rm. 9S235 (Bunim)
Contact: Barbara Rehermann, 301-402-7144, Rehermann@nih.gov
http://sigs.nih.gov/vhig
LISTSERV: VHIG-L@list.nih.gov

Virology Interest Group
Meeting time/place: 1st Thursdays, noon; Bldg. 4, Rm. 433; November minisymposium
Contacts: Kuan-Teh Jeang, 301-496-6680, kjeang@mail.nih.gov; Gaelle Kolb, 301-496-8012, kolbg@niaid.nih.gov
http://sigs.nih.gov/vig
LISTSERV: NIHVIG-L@list.nih.gov

Washington Area NMR Interest Group
Meeting time/place: mini symposia thrice yearly
Contact: Daron Freedberg, 301-496-0837, daron_freedberg@nih.gov
http://sigs.nih.gov/wang

Washington Area Yeast Club
Meeting time/place: 2nd Wednesdays, 4:30 p.m.; Bldg. 6A, Rm. 4A05
Contact: Henry Levin, henry_levin@nih.gov
http://sigs.nih.gov/yeast
E-mail: yeast@mail.nih.gov

Women's Health Special Interest Group
Meeting time/place: Fridays as scheduled, 11:30 a.m.–12:30 p.m.; Bldg. 1 Wilson Hall
Contacts: Vicki Malick, malickv@mail.nih.gov; Rosemarie Filart, filartr@mail.nih.gov
http://sigs.nih.gov/whsig

X-ray Diffraction Interest Group
Meeting time/place: varies, see http://mcl1.ncifcrf.gov/nihxray
Contact: Fred Dyda, fred.dyda@nih.gov
http://sigs.nih.gov/xray
LISTSERV: NIHXRAY-L@list.nih.gov

Zebrafish-Frog Interest Group
Meeting time/place: last Monday each month, noon; Bldg. 50, 5th fl. conf. room
Contact: Tom Sargent, tsargent@nih.gov
http://science.nichd.nih.gov/confluence/display/zfig

Catalytic Reactions?

If you have a photo or other graphic that reflects an aspect of life at NIH (including laboratory life) or a quotation that scientists might appreciate that would be fit to print in the space to the right, why not send it to us via e-mail: catalyst@nih.gov; fax: 301-402-4303; or mail: *The NIH Catalyst*, Building 1, Room 333.

Also, we welcome "letters to the editor" for publication and your reactions to anything on the *Catalyst* pages.

In Future Issues...

- Biospecimens
- FAES
- Pirate viruses?

Protocol 09-H-0000: A Protocol for the Perfect Lunch

Principal Investigators: Adrian D. Haimovich (Laboratory of Developmental Systems Biology) and Nancy L. Geller (Office of Biostatistics Research), NHLBI

I. Introduction: Good nutrition is essential for laboratory scientists during long days at the bench. The ideal lunch consists of a proper sandwich with accompaniments.

II. Methods:
A. Bread: Packaged sliced bread, while assuring matched-size slices, is suboptimal. Correct breads include rye bread, French bread, and sourdough bread, preferably purchased at a bakery.
B. Protein: A proper sandwich contains both meat and cheese, with exceptions allowed for personal beliefs (for example, vegetarianism). Presliced cheese, such as Asiago, assures uniformity of flavors.
C. Condiments: At least one condiment is recommended. Honey or whole-grain mustard is more meritorious than mundane ketchup. Alternatives include mango chutney, peanut satay, or Russian dressing. Condiments should be spread thinly on one or both pieces of bread, depending on desired impact.
D. Vegetable: A proper sandwich is incomplete without salad greens. A sliced tomato, if added, must be surrounded by greens to avoid sogginess. Avocado, cucumber, or sun-dried tomatoes may be added.

III. Additional considerations:
A. Salad: Leftover salad, baby carrots, or celery sticks will set off the sandwich nicely.
B. Fruit: Peaches, apples, cherries, or seedless grapes, provided that fruit is not washed in the lab sink.
C. Cookie: Athletes and first-year postdocs may allow themselves a cookie for an afternoon snack. Others should bring yogurt or fruit. An exception is cookies at the weekly WALS lecture.

IV. Protocol exceptions: If planning to microwave, pack components; cooked lettuce is discouraged.

V. Potential adverse events: Side effects may occur. Some postdocs show signs of postprandial depression. Those whose primary tasks are pipetting, browsing the UCSC genome, or watching YouTube videos should consume half the sandwich at lunch and half later to avoid sleepiness.

VI. Conclusion: A nutritionally sound, proper lunch facilitates functioning of laboratory scientists during long days at the lab. Advanced planning pays off in terms of satisfaction and co-worker envy.

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